



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: RB211-524H BYPASS RATIO: 4.2
 UNIQUE ID NUMBER: 1RR011 PRESSURE RATIO (π_{00}): 34.0
 COMBUSTOR: RATED THRUST (F_{00}) (kN): 264.4
 ENGINE TYPE: MTF

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	2.5	23.8	107.6	5.0
AS % OF ORIGINAL LIMIT	12.8	20.1	99.6	27.7
AS % OF CAEP/2 LIMIT (NO _x)			124.5	
AS % OF CAEP/4 LIMIT (NO _x)			143.5	
AS % OF CAEP/6 LIMIT (NO _x)			160.7	
AS % OF CAEP/8 LIMIT (NO _x)			185.1	

DATA STATUS

- PRE-REGULATION
 - CERTIFICATION
 x REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.730	0.34	0.87	65.84	3.0
CLIMB OUT	85	2.2	2.170	0.33	0.38	46.31	3.6
APPROACH	30	4.0	0.710	0.36	0.99	10.26	1.8
IDLE	7	26.0	0.260	0.74	11.75	4.78	0.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			977	495	5143	24501	-
NUMBER OF ENGINES				2	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				1.9	19.4	92.8	3.9
SIGMA (D _p /F ₀₀ in g/kN, or SN)				0.3	0.4	1.8	0.4
RANGE (D _p /F ₀₀ in g/kN, or SN)				1.61-2.14	18.9-19.6	91.1-94.6	3.7-4.3

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101
TEMPERATURE (K)	283-286
ABS HUMIDITY (kg/kg)	0.006

FUEL

SPEC	AVTUR
H/C	1.91
AROM (%)	20

MANUFACTURER: Rolls-Royce plc
 TEST ORGANIZATION: Rolls-Royce Ltd
 TEST LOCATION: SINFIN-Derby
 TEST DATES: 01/04/1987-01/10/1992

REMARKS

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)